

Table A-18.B. Evaluation factors for activated carbon

Remedial time frame	Concern	Low
	Discussion	Contaminant adsorption to carbon is essentially instantaneous; however, the mass of carbon may be insufficient, or the contaminants of concern may desorb from the carbon in the presence of other, more sorbable compounds (dynamic equilibrium), before degradation/destruction processes are complete.
Safety	Concern	Moderate
	Discussion	Activated carbon is friable and can create inhalation hazards during handling. Personnel must handle activated carbon with care and appropriate PPE.
Waste management	Concern	Low
	Discussion	Activated carbon is non-toxic. Surfacing of carbon during injection is common when high pressure is applied and generally cleans up with water.
Community concerns	Concern	Low
	Discussion	Removal of spilled carbon from surfaces is difficult unless pressure washing/brushing is possible.
Carbon footprint/energy requirements	Concern	Moderate
	Discussion	The manufacture of activated carbon from coal (the preferred source for this application) may have adverse environmental effects outside of its use for remedial purposes.
Site restrictions	Concern	Low
	Discussion	Exclusion of untrained personnel from work areas required.
LNAPL body size	Concern	Low
	Discussion	LNAPL may be mobilized short distances by the injection process. Injections should typically begin at plume edges where impacts are low and work in toward source areas to mitigate the potential for local displacement.
Other regulations	Concern	Moderate.
	Discussion	Need for an injection (UIC) permit may be required.
Cost	Concern	Moderate
	Discussion	Injection cost is high but overall cost is likely to be comparable to other injection technologies. Detailed site characterization is necessary to define and target treatment zones with proper dosages to minimize cost/retreatment.
Other	Concern	Moderate
	Discussion	Injection of carbon near monitoring wells, streams, basements or buried utilities may cause carbon to encounter and flow into such features. Carbon is nearly impossible to remove from monitoring wells, and replacement of compromised wells may be necessary.